REMARKS

Claims 1, 2, 4, 8, 9, 11, 12, 15, 20, and 21 have been amended better to point out that which applicants regard as their invention. More particularly, each of the indicated independent claims has been revised to specify that the volume hologram laminate is produced by heat treatment of the laminate during a production process therefor, thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer. Support for the change is found in the specification at least at page 20, lines 18 to 20, page 21, lines 23 to 25, page 50, lines 9 to 11, page 55, lines 17 and 18, and page 56, lines 6 and 7, and lines 27 to 29. Claims 3, 10, and 22 to 29 have been canceled to advance prosecution. The claims before the Examiner thus are claims 1, 2, 4 to 6, 8, 9, 11 to 13, and 17 to 21.

The rejection of claims 1 to 3, 5, 6, 8 to 10, 12, 13, and 15 to 27 under 35 USC 103 as unpatentable over Morii et al. WO '607, if applied to the claims as amended, is respectfully traversed. As indicated above, the remaining independent claims have been revised to specify that the volume hologram laminate is produced by heat treatment of the laminate during a production process therefor, thereby shifting the tackifier from the adhesive layer in which the

tackifier is contained to the volume hologram layer. There is no recognition in the reference of an active/positive migration of tackifier between the layers that (1) will effectively control the reproduced wavelength of the hologram recorded in the hologram layer and (2) will enhance adhesiveness between the adhesive layer and the volume hologram layer. It is acknowledged that the Morii et al. U.S. counterpart in the paragraph bridging columns 45 and 46 discusses a heat treatment. Applicants, however, point out that the reference discloses that a monomer or plasticizer, not a tackifier, in the resin layer (not an adhesive layer) could come out of that resin layer for easy release. There is no recognition, statement, or understanding in Morii et al. regarding using a tackifier and the advantageous effect of being able to achieve both an improvement of adhesiveness between the adhesive layer and the volume hologram layer and a shifting effect of the reproduced wavelength of the hologram by the technique of the instant claims.

The detailed explanation of the bases for the rejection at pages 2 to 4 of the Final Rejection is noted with appreciation. Applicants respectfully submit, however, that the incidental discussion of tackifing agents in the reference does not teach or suggest the advantages of the present invention discussed above and

also discussed in the Amendment Under 37 CFR 1.111 filed April 2, 2002.

The phenomenon of Fick's law, defined in the McGraw Hill Dictionary of Scientific and Technical Terms as "[t]he law that the rate of diffusion of matter across a plane is proportional to the negative of the rate of change of the concentration of the diffusing substance is the direction perpendicular to the plane," does not direct the artisan to what occurs in the instant invention. To the extent that the Examiner's description of what occurs during the invention may be correct (migration of small molecules from areas of high concentration to areas of lower concentration), that description comes after considering applicants' disclosure. Fick's law does not lead one to the improved volume hologram laminate of the present invention. The rejection should be withdrawn.

The rejection of claims 1 to 6, 8 to 13, and 15 to 27 under 35 USC 103 as unpatentable over Ueda et al. '598 and Smothers et al. EP '772 in view of Morii et al. WO '607 is also respectfully traversed. The disclosure of various representative materials that can be used in making hologram laminate materials, when considered with the disclosure of Morii et al. WO '607, would not lead the person of ordinary skill in the art to the claimed invention. The

references collectively do not recognize the advantage to be gained in the volume hologram laminate when a tackifier is transferred by heat treatment during the formation of the volume hologram laminate. The rejection should be withdrawn.

Applicants also respectfully traverse the rejection of claims 1 to 6, 8 to 13, and 15 to 27 under 35 USC 103 as unpatentable over Ueda et al. '598 and Smothers et al. EP '772 in view of Morii et al. WO '607 further in view of JP '684, Tarumi et al. '107, or Weber et al. '863 and the rejection of claims 1 to 6, 8 to 13, and 15 to 29 under 35 USC 103 as unpatentable over Ueda et al. '593, Smothers et al. '772, Morii et al. WO '607, JP '684, Tarumi et al. '107 or Weber et al. '863 further combined with Miwa et al. '271 and Sato et al. '614. The additional references again are cited to show that various materials such as trimethyolpropane triacrylate are known. The references, however, fail to discuss, understand or appreciate the advantages of the present invention and the rejection should be withdrawn.

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Reconsideration of the rejection in view of the foregoing revisions and remarks is earnestly solicited.

Respectfully submitted,

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1. (Thrice Amended) A volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a substrate in the described order, wherein a substance for shifting a recorded wavelength to the volume hologram layer is contained in the first and/or the second adhesive layer(s), [and] a reproduced wavelength of hologram recorded in the volume hologram layer is controlled with shifting the substance between the layers, the substance being a tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.

2. (Twice Amended) A volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a substrate in the described order, wherein a substance for shifting a recorded wavelength to the volume hologram layer is contained in either

one of the first and the second adhesive layers, the substance is not contained in other adhesive layer, [and] a reproduced wavelength of hologram recorded in the volume hologram layer is controlled with shifting the substance between the layers, the substance being a tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.

4. (Thrice Amended) A volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a substrate in the described order, wherein a film for shifting a recorded wavelength is put between the first adhesive layer and the volume hologram layer or between the second adhesive layer and the volume hologram layer, a substance for shifting a recorded wavelength to the volume hologram layer is contained in one of the adhesive layers without the film, [and] a reproduced

wavelength of hologram recorded in the volume hologram layer is controlled with shifting the substance between the respective adhesive layer and the film as well as between the adhesive layer and the volume hologram layer, the substance being a tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.

8. (Thrice Amended) A label for preparation of a volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a release liner sheet in the described order, wherein a substance for shifting a recorded wavelength to the volume hologram layer is contained in the first and/or the second adhesive layer(s), [and] a reproduced wavelength of hologram recorded in the volume hologram layer is controlled with shifting the substance betw en the layers, the substance being a

tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.

9. (Twice Amended) A label for preparation of a volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a release liner sheet in the described order, wherein a substance for shifting a recorded wavelength to the volume hologram layer is contained in either one of the first and the second adhesive layers, the substance is not contained in the other adhesive layer, [and] a reproduced wavelength of hologram recorded in the volume hologram layer is controlled with shifting the substance between the layers, the substance being a tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.

11. (Thrice Amended) A label for preparation of a volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a release liner sheet in the described order, wherein a film for shifting a recorded wavelength is put between the first adhesive layer and the volume hologram layer or between the second adhesive layer and the volume hologram layer, a substance for shifting a recorded wavelength to the volume hologram layer is contained in one of the adhesive layers without the film, [and] a reproduced wavelength of hologram recorded in the volume hologram layer is controlled with shifting the substance between the respective adhesive layer and the film as well as between the adhesive layer and the volume hologram layer, the substance being a tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.

12. (Twice Amended) A volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a substrate in the described order, wherein a substance with a refractive index lower than that of the volume hologram layer for shifting a recorded wavelength is contained in the first and/or the second adhesive layer(s), [and] a reproduced wavelength of hologram recorded in the volume hologram layer is shifted to a short wavelength side, the substance being a tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.

15. (Twice Amended) A volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a substrate in the described order, wherein a substance with a refractive index higher than that of the volume hologram layer for shifting a

recorded wavelength is contained in the first and/or second adhesive layer(s), [and] a reproduced wavelength of hologram recorded in the volume hologram layer is shifted to a long wavelength side, the substance being a tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.

20. (Twice Amended) A label for preparation of a volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a release liner sheet in the described order, wherein a substance with a refractive index lower than that of the volume hologram layer for shifting a recorded wavelength is contained in the first and/or the second adhesive layer(s), [and] a reproduced wavelength of hologram recorded in the volume hologram layer is shifted to a short wavelength side, the

substance being a tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.

21. (Twice Amended) A label for preparation of a volume hologram laminate having a first adhesive layer, a volume hologram layer, a second adhesive layer and a surface protecting film formed on a release liner sheet in the described order, wherein a substance with a refractive index higher than that of the volume hologram layer for shifting a recorded wavelength is contained in the first and/or the second adhesive layer(s), [and] a reproduced wavelength of hologram recorded in the volume hologram layer is shifted to a long wavelength side, the substance being a tackifier, and the volume hologram laminate is produced by heat-treatment of the laminate during a production

process therefor thereby shifting the tackifier from the adhesive layer in which the tackifier is contained to the volume hologram layer.